

IMPROVING CMV SAFETY IN NORTH CAROLINA

The Need for An Integrated and Sustainable System-Level Approach

Presented by

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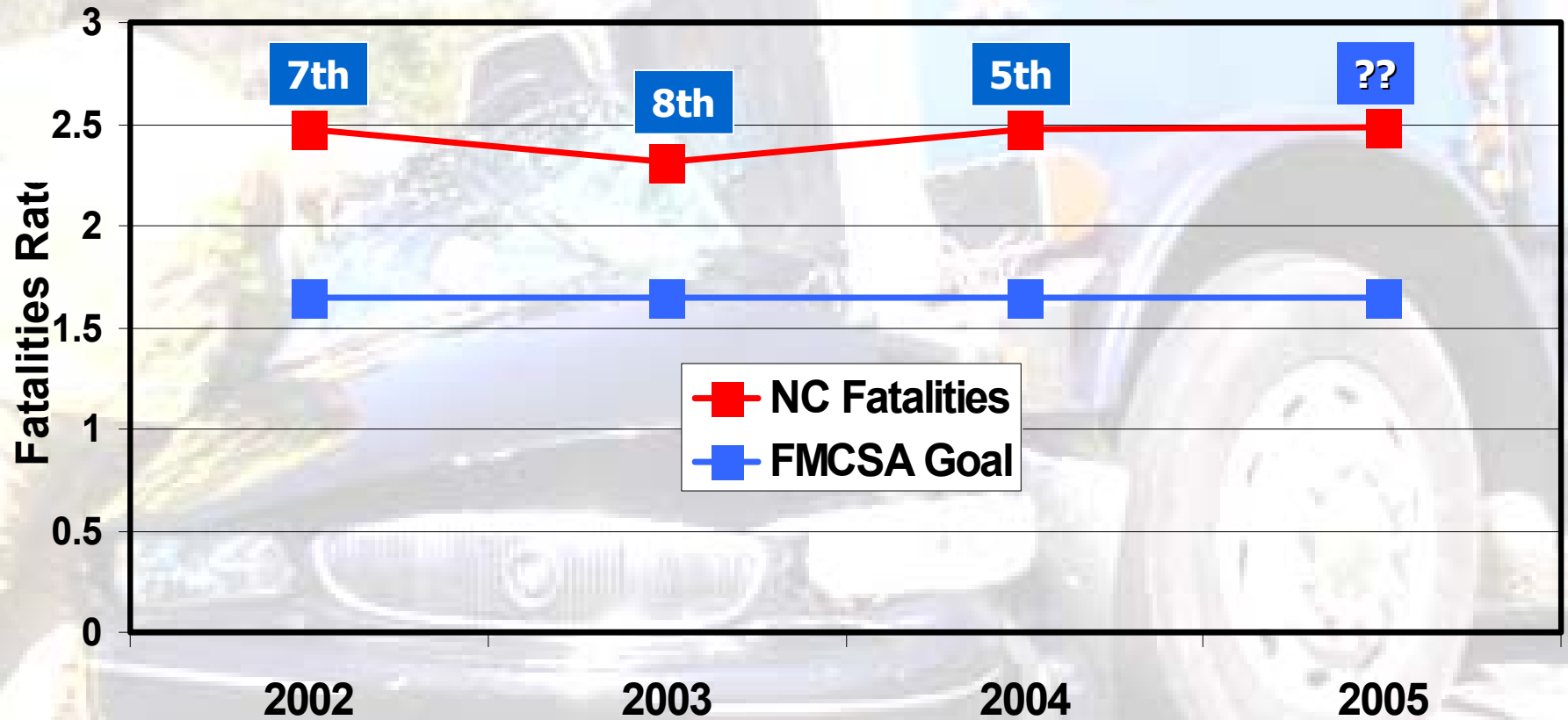
**To
The CMV Working Group**

April 2006

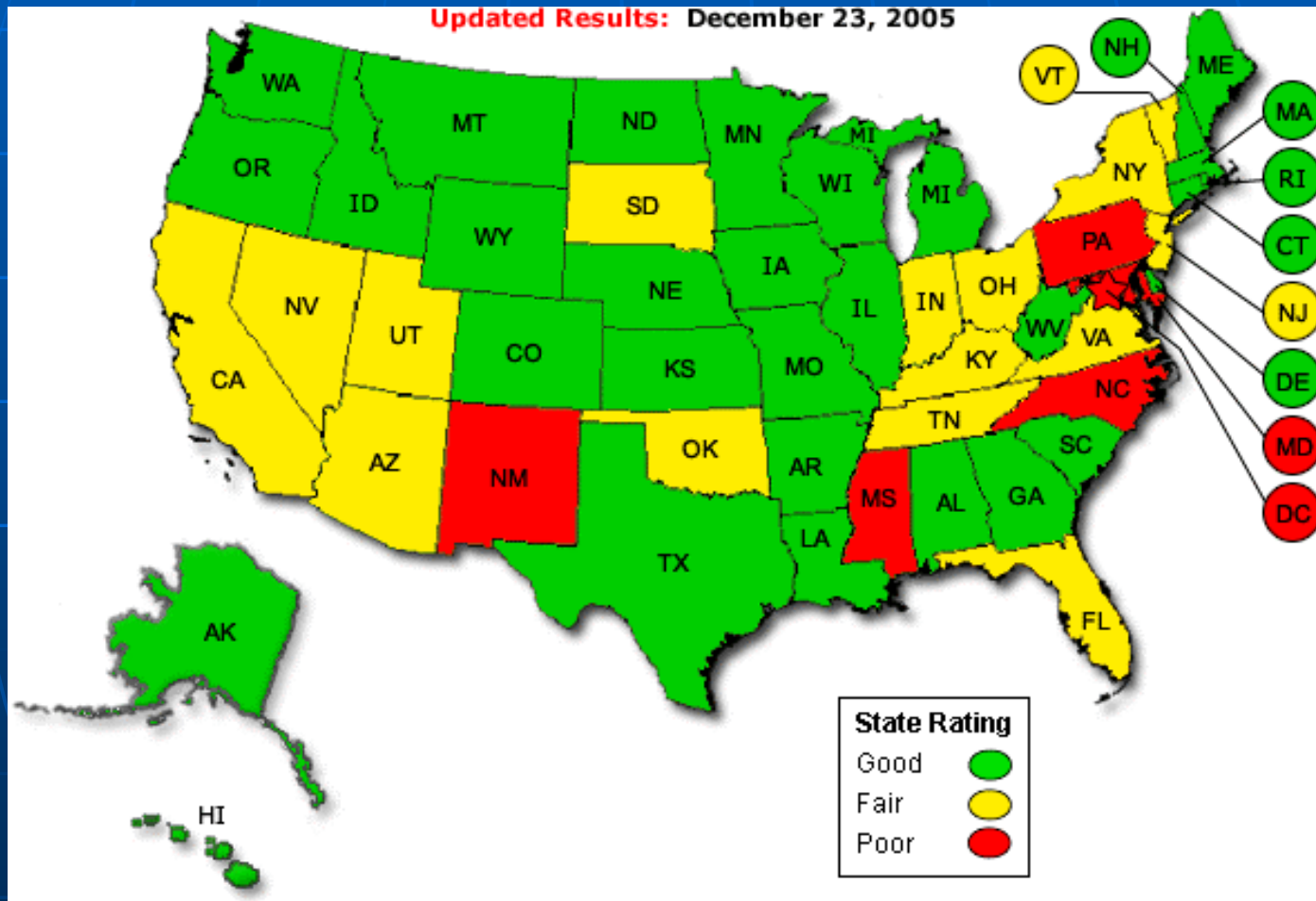
CMV-Involved Fatalities

Per 100 Million Truck Miles Traveled in NC

(Box shows US rank)



And we're not doing so well on CMV data quality and timeliness



**Does being a 'red state' and
consistently in the 'Top Ten'
mean that we're doing
something drastically wrong?**

Not Necessarily

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- As a 'pass-through' state there is significant 'exposure' (independent of risk)
- NC has good crash data, but significant IT problems
- Accurate and timely data will not directly solve the CMV crash problem, but will be critical to our concept of CMV operations and safety in the future (e.g, CVISN).

So, what do we know
about the factors that will
impact CMV safety and
operations in the near
future?

Projected growth in freight and the central role of trucking

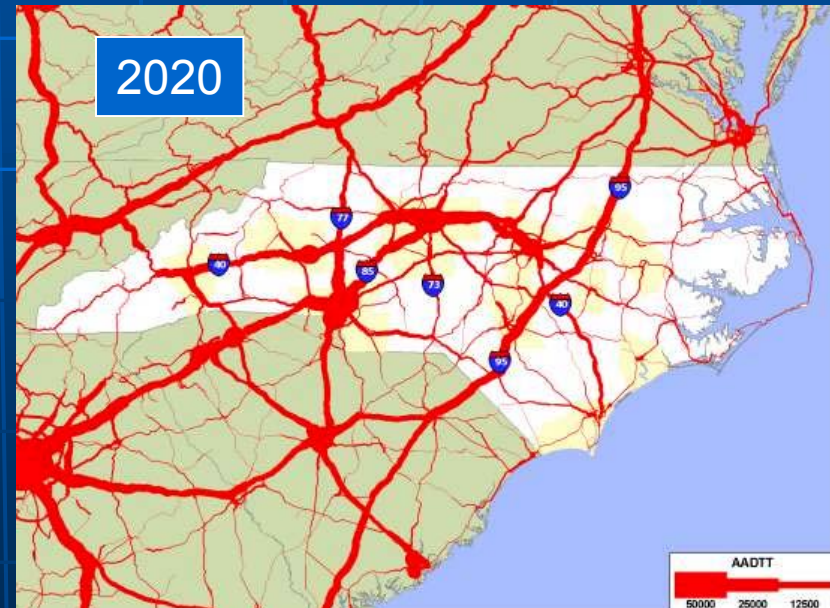
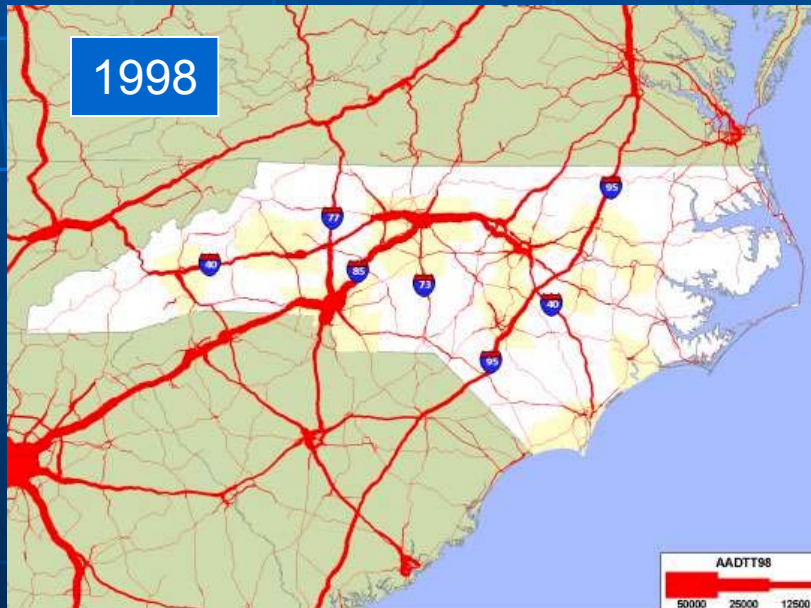
Implications:

- more trucks, longer, wider, trucks;
- more combination vehicles (including doubles, triples, etc.);
- more competition for share of the roadway

Freight Shipments to, from, within North Carolina (Million Tons)

	1998	2010	2020
Truck	426	641	808

Estimated Annual Daily Truck Traffic, North Carolina

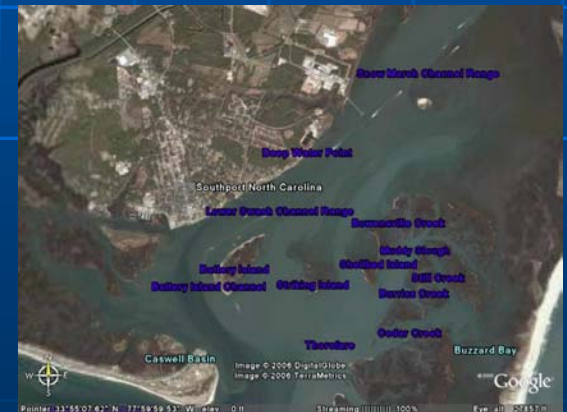


International Port Facility Planned for Southport, NC

Southport, NC -- The state Ports Authority is moving toward building an international port in Southport. The authority says the new facility will attract larger ships than North Carolina's two existing ports.

The ports authority board told its staff Thursday to work out details to buy 600 acres on the Cape Fear River for \$30 million. Plans call for the port to be operational in eight to ten years.

The facility would accommodate two million containers a year, rivaling ports in Norfolk, Virginia, and Charleston, South Carolina. Officials say it also would create hundreds of jobs.



Limited ability to build and maintain new roads



INCREASING CONGESTION, AND DELAY



‘Shared’ 2D roadway environment means increased ‘exposure’ to risk of CMV-involved crashes. No Zone programs to increase public awareness of CMV risk are necessary but not sufficient



THERE IS ALREADY PRESSURE TO ALLOW LONGER, WIDER, HEAVIER VEHICLES TO MEET INCREASED FREIGHT DEMAND



**According to the American Trucking Association (ATA),
"For the economy to grow, we must move more freight.
That either means more trucks on the road or more
productivity from the trucks we have."**

RAIL SYSTEM STILL A 'PLAYER' BUT LACKS CAPACITY



**NEED TO FOCUS ON 'LOGISTICS' AND 'FREIGHT'
NOT JUST 'TRUCKS' OR 'TRAINS'
THERE REALLY IS A GLOBAL, INTER-MODAL SUPPLY CHAIN.
IT'S ALL ABOUT 'OPERATIONS'**

The Problem

FREIGHT DEMAND ON TRANSPORTATION SYSTEM

VS

INFRASTRUCTURE COST

VS

MODAL SUPREMACY OR INTERMODAL COOPERATION

VS

ECONOMIC GROWTH

VS

SAFETY

Solutions?

- ARE WE RAPIDLY REACHING THE POINT WHERE, IN 'ITS' TERMINOLOGY, WE CAN NO LONGER HOPE TO 'BUILD OUR WAY OUT OF THE PROBLEM'?
- HAVE WE REACHED THE POINT WHERE WE MUST FINALLY ADDRESS INTERMODALISM, GLOBAL SUPPLY CHAINS, FREIGHT MANAGEMENT AND LOGISTICS?

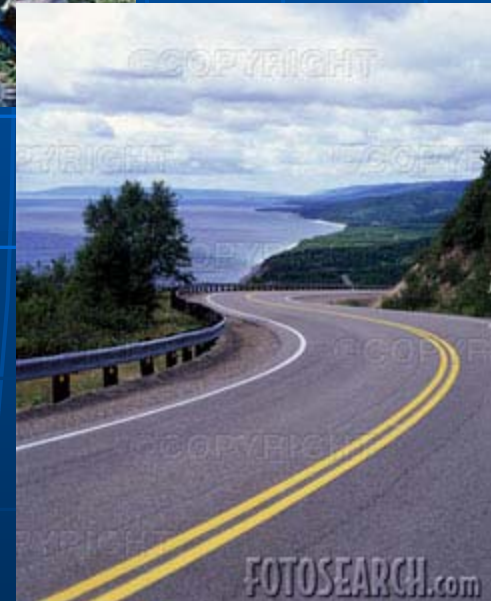
WILL 'SOLUTIONS' SACRIFICE 'SAFETY'?

INCREASED EXPOSURE, MARGINAL TRAINING, THE POTENTIAL FOR HUMAN ERROR, AND A CONTINUATION OF 'SOFT' SYSTEM CONTROLS GOVERNING THE LIKELIHOOD OF COLLISIONS WILL CONTINUE TO ALLOW FOR THE OCCURRENCE OF CRASHES



The 'roadside' becomes the safest 'escape route'

(How forgiving is the roadside environment? How much protection is provided by our medians? How safe are our 2-lane, undivided roadways? How effective are current methods of access control?)

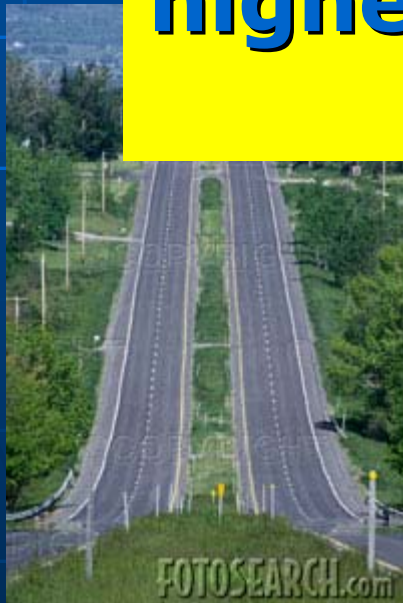


Where do I go when a truck crosses the centerline?

The 'roadside' becomes the safest 'escape route'

(How forgiving is the roadside environment? How much protection is provided by our medians? How safe are our 2-lane, undivided roadways? How effective are current methods of access control?)

The likelihood of a CMV-involved crash being fatal continues to be highest on NC and US-numbered routes



Where do I go when a truck crosses the centerline?

More efficient 'packaging' of travelers (i.e., public/mass transit)

to reduce the number and density of vehicles on the road
NOT A POPULAR ALTERNATIVE



**FUEL SHORTAGES, INCREASED COST OF CONVENTIONAL FUEL,
AND A MOVE TOWARD SMALLER, LIGHTER VEHICLES
WILL COLLECTIVELY HAVE A NEGATIVE IMPACT
ON OCCUPANT SAFETY**



THE IMPACT OF AN OLDER DRIVER POPULATION, ITS SUSCEPTABILITY TO MORE SERIOUS INJURY AND DEATH



AND REDUCED PERCEPTUAL MOTOR AND DECISION MAKING CAPABILITY IN COMPLEX TRAFFIC SITUATIONS

ALL THE AIRBAGS IN THE WORLD CANNOT PROTECT AN OLDER DRIVER IN AN IMPACT WITH AN 80,000 LB 'PLUS' VEHICLE



Industry shortage of experienced drivers



IS THERE A PARALLEL IN THE 'CDL' WORLD OF GRADUATED DRIVER LICENSING IN THE PASSENGER CAR WORLD?

**THE COST OF HIGHLY TRAINED AND WELL EQUIPPED
UNIFORMED LAW ENFORCEMENT PERSONNEL WILL NOT BE
ABLE TO KEEP PACE WITH THE NEED FOR SYSTEM-WIDE
SURVEILLANCE, RAPID INTERDICTION, AND ARREST**



WHERE CAN TECHNOLOGY HELP?

INCREASED USE OF PHOTO ENFORCEMENT



AND OTHER TECHNOLOGIES

**Capacity of judicial system cannot keep pace
with the need to adjudicate traffic violations treated as 'criminal' offenses.
Need for reform and increased capacity.**



**EVEN IF LAW ENFORCEMENT COULD WRITE MORE TICKETS, THE COURT
SYSTEM, AS WE CURRENTLY KNOW IT, COULD NOT HANDLE THE LOAD**

**INDUSTRY FORCED TO OVERLOAD TRUCKS TO COMPENSATE
FOR CONGESTION DELAYS AND INCREASED DEMAND**
Overweight fines become part of the 'cost of doing business'



**COST OF BUILDING AND MAINTAINING TRADITIONAL 'PERMANENT'
WEIGH STATION FACILITIES IS BECOMING PROHIBITIVE**

**OUR ABILITY TO 'WEIGH TRUCKS' MAY BECOME ANALOGOUS TO
OUR PRESENT ABILITY TO INSPECT 'CONTAINERS' LEAVING THE PORTS**

**AN URGENT NEED TO CHANGE THE WAY WE MONITOR TRUCK
SIZE AND WEIGHT**

(CVISN, PORT OF ENTRY, WIMS, VIRTUAL SITES)

No incentives for truck and trailer original equipment manufacturers (OEMs) in the US to develop safer vehicles (eliminate over/under ride, etc.)



WHY CAN THE EUROPEANS DO IT AND WE (IN THE US) CANNOT?

US-European Differences

- “Clearly, Europeans are more vigilant than the U.S. when it comes to heavy truck safety,” says Brian O’Neill of the Insurance Institute for Highway Safety. “The trucking lobby in this country pays lip service to safety; it treats safety as a nuisance, as it is far more concerned with economics.”

Critical factors of speed control, lane control, safe following distance remain under the behavioral control of 'experienced' drivers whose driving behavior is shaped by an environment that fails to consistently punish bad driving behavior. 'Error' is an inherent component of the behavioral system.



**Can education and training compensate for this weakness?
Are the effects of education and training 'sustainable'?
Can the system be designed to compensate for human inadequacies?**

THE BOTTOM LINE

- CMV SAFETY IS A 'SYSTEM LEVEL' RESPONSIBILITY
- REQUIRES A LOGICAL, WELL INTEGRATED, SYSTEM-LEVEL PLAN
- SIMPLY DOING 'MORE OF THE SAME' WILL NOT BE SUCCESSFUL
- NEED TO FOCUS ON SPECIFIC AREAS OF EXPERTISE IN INDIVIDUAL AGENCIES
- NEED CLEARLY DEFINED AGENCY LEVEL AND SYSTEM LEVEL GOALS
- IT WILL BE 'DIFFICULT' BUT IT IS 'DO-ABLE.'

COULD ENFORCEMENT BE AN OBVIOUS PLACE TO BEGIN?

■ **PHYSICS 101:**

- IF YOU CAN REDUCE THE SPEED AT IMPACT ASSOCIATED WITH THE COLLISION OF VEHICLES WHOSE VASTLY DIFFERENT SIZE AND MASS OFFSET THE CAPABILITY OF THE SMALLER VEHICLE TO EFFECTIVELY PROTECT ITS OCCUPANT(S) FROM SEVERE INJURY, THEN A REDUCTION IN THE FREQUENCY OF SEVERE INJURIES SHOULD BE THE RESULT.

COULD ENFORCEMENT BE AN OBVIOUS PLACE TO BEGIN?

- **PHYSICS 101: (CONTINUED)**
 - IF THE TWO VEHICLES DIFFER SIGNIFICANTLY IN THEIR ABILITY TO COME TO A STOP, THEN A REDUCTION IN SPEED SHOULD PROVIDE THE LARGER VEHICLE WITH AN INCREASED SAFETY MARGIN IN TERMS OF SHORTER STOPPING DISTANCE.
 - GAINING SOME ADDITIONAL REACTION TIME IS CRITICAL FOR AN OLDER DRIVER POPULATION

What are we saying?

- We're saying to enforce (that is, to 'bring under control') the speed of commercial motor vehicles (CMVs).
- We're not advocating 'differential speed limits' for cars and trucks.
- We're not necessarily advocating a reduction in current posted speed limits.

Sending the Right Message

- We proposing that we send a clear message to truckers operating in/through North Carolina that there will be no 'variance' or 'tolerance' from the posted speed limits.
- If detected speeding, you will be cited and convicted as charged.
- You will be subject to a full (Level I) inspection at the roadside, to include being weighed by portable scales or directed to the nearest permanent scale facility to be weighed on platform scales.

Sending the Right Message

- You will be subject to all civil fines and penalties associated with your weight and inspection status
- You will be subject to being placed 'out of service' at the roadside
- You will be required to offload any excess weight before being allowed to continue.

Sending the Right Message

- We are saying, 'Truckers, beware. NCSHP officers have been cross trained in CMV enforcement.
- Motor carrier officers dress the same and drive the same vehicles as other troopers.
- Non-NCSHP law enforcement in North Carolina have also received CMV awareness training and 'know what to do when they stop a truck.'"
- Expect to encounter CMV enforcement 'in town,' on the Interstates, as well as on all NC and US-numbered routes.

Sending the Right Message

- Every courtroom in North Carolina is supportive of strict CMV enforcement.
- Speeding violations will not be reduced by the court to lesser charges
- North Carolina does not permit CDL holders the utilize the PJC plea.
- Your violation will be posted to your CDL driver history file and your employer will be notified of the conviction.

It's Not Just About Enforcement

Who Else Needs to Come to the Table?

- Commerce and Freight Operations
- Hiring qualified drivers
- Carrier Safety Management Systems
- Public Education and Awareness
- Infrastructure Requirements and Sustainability
- Rethinking the 'shared' environment
- Inter-Modal Cooperation
- Occupant Protection for Both CMV and Passenger Car Occupants
- Legislative and Judicial reform
- OEM responsibility for safer vehicles

NCDOT (RAIL, HIGHWAY, PUBLIC/MASS TRANSIT, PORT) TO INCLUDE FHWA AND FHWA FREIGHT OPERATIONS

Infrastructure (roads, ports, inter-modal capacity)



More efficient 'packaging' of travelers
(i.e., public/mass transit)
to reduce the number of density of vehicles on the road

NOT A POPULAR ALTERNATIVE



INCREASING CONGESTION, AND DELAY



**THE IMPACT OF AN OLDER DRIVER POPULATION, ITS SUSCEPTABILITY
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**GOVERNOR'S HIGHWAY
SAFETY PROGRAM (GHSP)
NHTSA INITIATIVES**

**AND REDUCED PERCEPTUAL MOTOR AND DECISION MAKING
CAPABILITY IN COMPLEX TRAFFIC SITUATIONS**

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**DIVISION OF
MOTOR VEHICLES (DMV)**



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ENFORCEMENT

AND OTHER TECHNOLOGIES



WHERE CAN TECHNOLOGY HELP?

THE LEGISLATURE



TO INCLUDE THE ADMINISTRATIVE OFFICE OF THE COURTS (AOC)

THE COURTS

Capacity of judicial system cannot keep pace with the need to adjudicate traffic violations treated as 'criminal' offenses.

Need for reform and increased capacity.



EVEN IF LAW ENFORCEMENT COULD WRITE MORE TICKETS, THE COURT SYSTEM, AS WE CURRENTLY KNOW IT, COULD NOT HANDLE THE LOAD

THE UNIVERSITIES (HSRC, ITRE)

INCREASED EXPOSURE, MARGINAL TRAINING, THE POTENTIAL FOR HUMAN ERROR, AND A CONTINUATION OF 'SOFT' SYSTEM CONTROLS GOVERNING THE LIKELIHOOD OF COLLISIONS WILL CONTINUE TO ALLOW FOR THE OCCURRENCE OF CRASHES



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STATE TRUCKING ASSOCIATION AND TRUCK OEMs



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FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION (FMCSA) NC DEPARTMENT OF TRANSPORTATION

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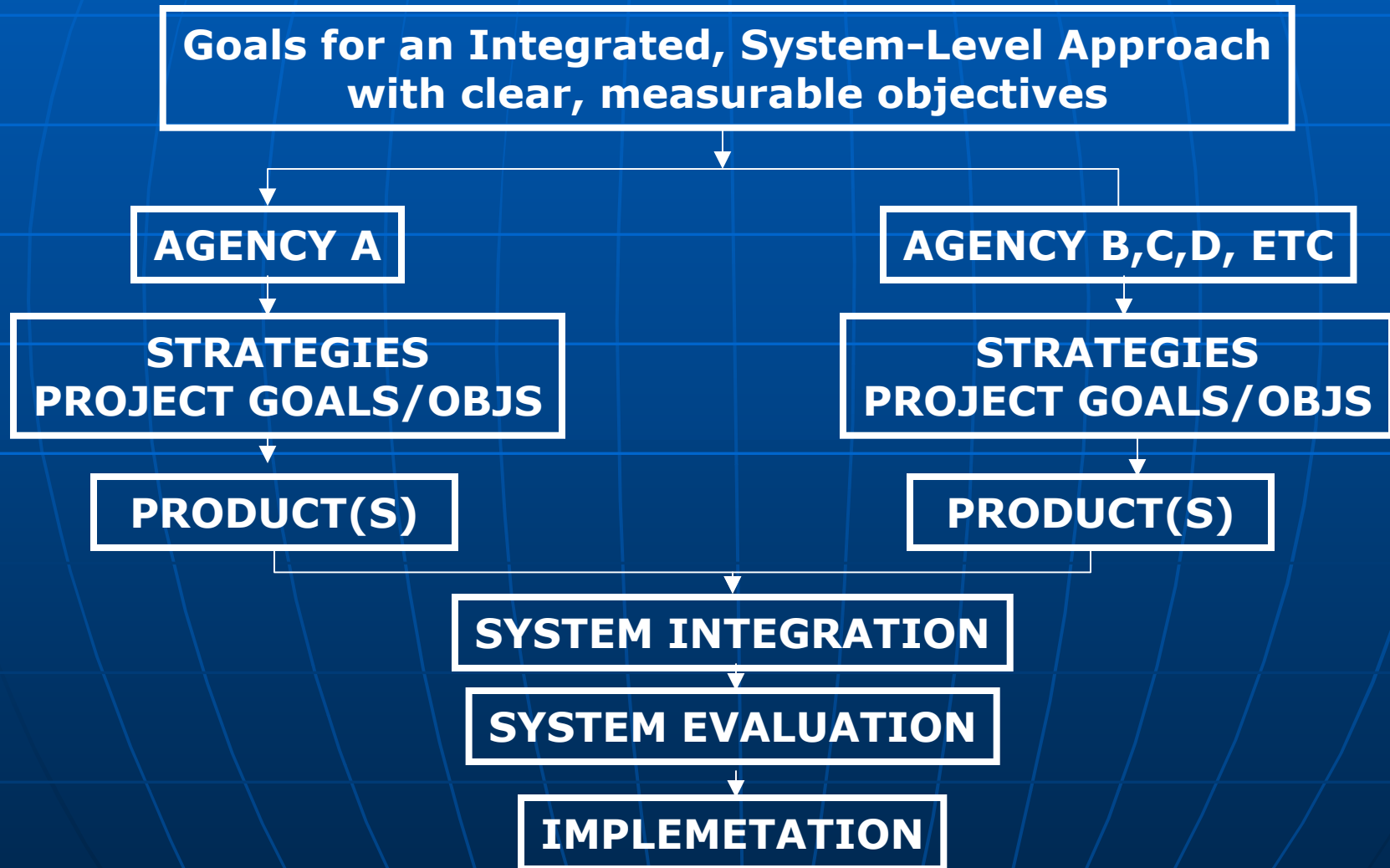
CRASH

Citizens for Reliable and Safe Highways

The CMV 'Insurers'

Etc.

What would an 'integrated' and 'well coordinated' program look like?



**We can do this with the full
support and cooperation of the
agencies represented in this
room.**

**Together, we can make a
difference!**